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ATMOSPHERIC POLLUTION IN DUBLIN DURING THE YEARS 1944 TO 1950.

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Earlier work[1] on atmospheric pollution in Dublin during the years 1938 to 1941 appeared to show a relationship between pollution due to suspended matter and deaths due to respiratory diseases. In 1942 and 1943, however, when the chief fuel was peat, pollution due to suspended matter and to sulphur dioxide fell to very low levels, while the deaths did not show a corresponding reduction.[2]

Records of pollution were stopped for a time, but it was thought that it might be of interest to resume observations as it was a unique opportunity to study pollution in a city having a population of about half a million using peat as their main fuel. The results obtained over the years 1938 to 1949 are given in graphic form in figures 1 and 2, with a break during 1943. The total pollution per week was obtained by summing the hourly shades obtained on the automatic filter, a shade number of 1 corresponding to 0·32 mgm. per cubic metre of air.

Examination of figure 1 shows the fall of pollution by suspended matter in 1941, followed by low peak values during the winter months of '42 to '47, but rising again in '48 and '49 as coal became more plentiful.

The peaks in the death rates from '42 to '49 appear to have no relationship to the pollution at the corresponding times. Thus the high death peaks in '45 and '47 are not paralleled by high peaks in the pollution, nor when pollution rose again in '48 and '49 are there increased peaks in the deaths.

So far as these results go, it must be concluded that there is no direct relationship between pollution and deaths from respiratory diseases in Dublin city

Pollution by sulphur dioxide measured monthly by the lead peroxide method[3] at Leinster Lawn, Dublin, and at the Albert Farm, Glasnevin, is shown in figure 2.

As in the case of suspended impurity, pollution by sulphur dioxide in both the city and neighbouring country fell noticeably in 1941, and continued at a low level till 1947, when coal again became available. While the peak value in the city in January, 1949, was still well below the peak values obtaining in pre-war years, the figure for Glasnevin has almost attained its pre-war level. This is probably due to the fact that a large number of houses have been built in the vicinity of the Albert Farm, and occupation thereof began in 1948.

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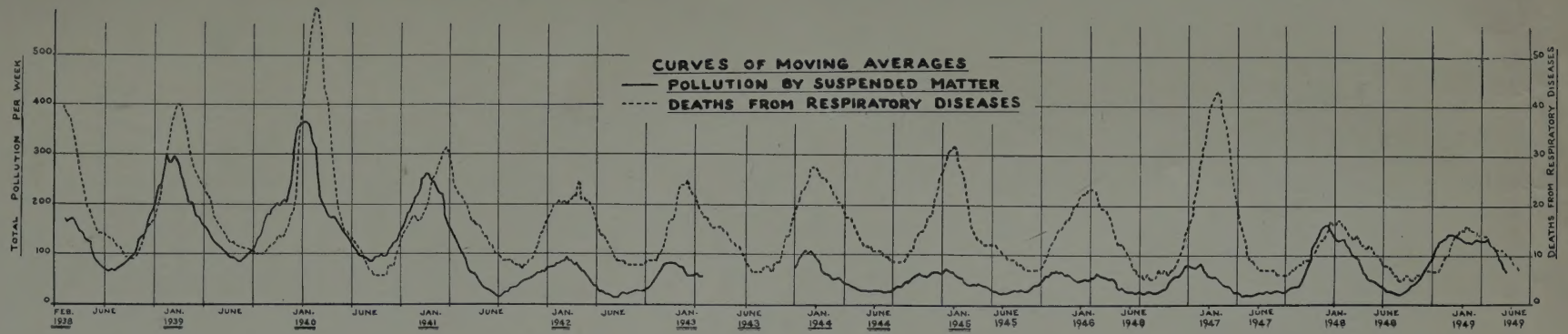
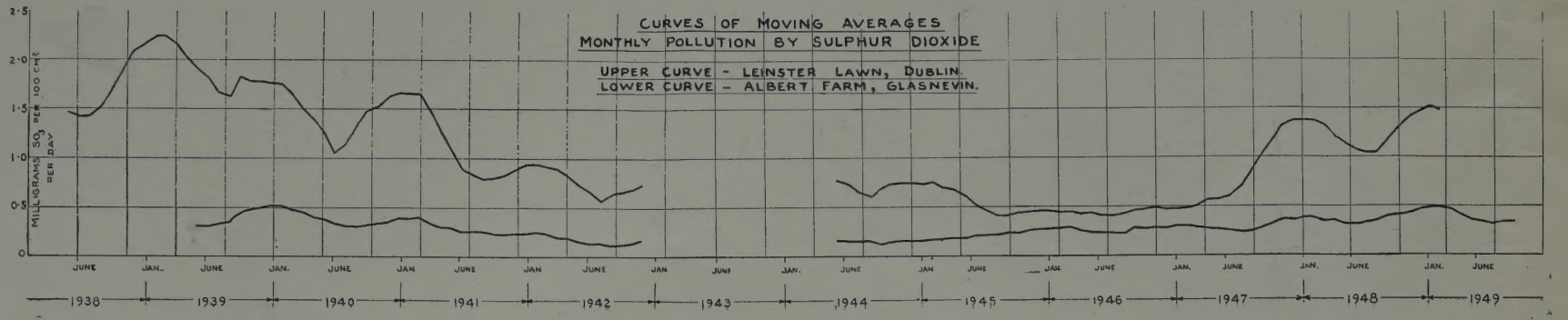
[1] Sci. Proc. R.D.S., *23*, p. 10, 1942.
[2] Sci. Proc. R.D.S., *23*, p. 164, 1943.
[3] Dept. Sci. & Ind. Research, An Rep. No. 20, 1933-34, 44.


CURVES OF MOVING AVERAGES
POLLUTION BY SUSPENDED MATTER
DEATHS FROM RESPIRATORY DISEASES
TOTAL POLLUTION PER WEEK
DEATHS FROM RESPIRATORY DISEASES
0
100
200
300
400
500
10
20
30
40
50
FEB. 1938
JUNE
JAN. 1939
JUNE
JAN. 1940
JUNE
JAN. 1941
JUNE
JAN. 1942
JUNE
JAN. 1943
JUNE 1943
JAN. 1944
JUNE 1944
JAN. 1945
JUNE 1945
JAN. 1946
JUNE 1946
JAN. 1947
JUNE 1947
JAN. 1948
JUNE 1948
JAN. 1949
JUNE 1949


CURVES OF MOVING AVERAGES
MONTHLY POLLUTION BY SULPHUR DIOXIDE
UPPER CURVE - LEINSTER LAWN, DUBLIN.
LOWER CURVE - ALBERT FARM, GLASNEVIN.
MILLIGRAMS SO3 PER 100 CM2 PER DAY
0
0·5
1·0
1·5
2·0
2·5
JUNE
JAN.
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949